

D2 TABLE

MySQL Table data definitions by datatype

Col.	Contents	Column Name	Datatype	SQL qu
1	starting time of interval (Mission Elapsed Time).	StartTimeMET,	UNSIGNED INT	PRIMAR KEY
2	Milliseconds of StartTime (Mission Elapsed Time) multiplied by 1000	StartTimeMETMs	UNSIGNED SMALLINT	
3	starting time of interval (UTC)	StartTimeUTC	TIMESTAMP(12)	
4	ending time of interval (Mission Elapsed Time)	EndTimeMET	UNSIGNED INT	
5	Milliseconds of EndTime (Mission Elapsed Time) multiplied by 1000	EndTimeMETMs	UNSIGNED SMALLINT	
6	ending time of interval (UTC)	EndTimeUTC	TIMESTAMP(12)	
7	LAT x-axis orientation at start RA	LATXRa	FLOAT	
8	LAT x-axis orientation at start dec	LATXDec	FLOAT	
9	LAT zenith direction at start, RA	LATZenRa	FLOAT	
10	LAT zenith direction at start, dec	LATZenDec	FLOAT	
7	LAT operation mode	LATOpMode	CHAR(8)	
8	Livetime	Livetime	FLOAT	
9	SAA flag (1 = in SAA, 0 – out of SAA what else? Inst on-off status?)	SAAFlag	UNSIGNED INT	
10	S/C position - direction cosines X	SCPosX	FLOAT	
10	S/C position - direction cosines X	SCPosY	FLOAT	
10	S/C position- direction cosines X	SCPosZ	FLOAT	
10	S/C latitude	SCLat	FLOAT	
11	S/C longitude	SCLon	FLOAT	
12	S/C altitude	SCAlt	FLOAT	
13	direction of the sun, RA	SunRa	FLOAT	
13	direction of the sun, dec	SunDec	FLOAT	
14	direction of the moon, RA	MoonRa	FLOAT	
14	direction of the moon, dec	MoonDec	FLOAT	

So far 72 bytes per record. This implies that one year's worth of data @ 1/30 Hz would be 2.2 Gb or 22 Gb for 10 years

Questions

- 1) Primary Key **StartTimeMET**
- 2) MET and TIMESTAMP? (MET alone?)

- 3) MET precision ms OK or do we need better? (With UNSIGNED SMALLINT we could go as good as small as 0.2 ms interval otherwise need to use INT. Note MySQL also supports a MEDIUMINT type, but this does not appear to be SQL-99 compliant., but haven't paid my 405 chf to ISO)
- 4) What coordinates for S/C orientation/Zenith? (I'll use RA and Dec for now)
- 5) What coordinate system for position x, y, and z?
- 6) How big should tables be? 1 month tables? Average source "sweet spot" FOV time?
- 7) What format for sun, moon direction angles RA, dec, or angles from pointing dir?